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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/702,572 | 11/06/2003 | Yehuda Cern | 2147.014USU | 8735 |

7590 03/23/2007
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| EXAMINER |
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NGUYEN, NAM V

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| ART UNIT | PAPER NUMBER |
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2612

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/23/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/702,572 | Applicant(s) CERN, YEHUDA | |
| | Examiner Nam V. Nguyen | Art Unit 2612 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/06/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/10/04 and 11/13/06</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The application of Cern for a “controlling power output of a modem for power line communications” filed November 6, 2003 has been examined.

This application claims priority to U.S. provisional application number 60/424,064, which is filed on November 6, 2002.

Claims 1-20 are pending.

Claim Objections

Claims 3-4 and 13-14 recites the limitation "a power" in line 4 and "a power" in line 5. There is insufficient antecedent basis for this limitation in the claim. Examiner believes that the controller adjusts “the power” to a first power for first frequency sub-band or adjusts “the power” to a second power for the second frequency sub-band.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant trying to claim an arrangement of components does

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not fall into any statutory categories of invention. It is suggested to change “an arrangement of components for user in a power line communication system” to “a power line communication system”.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8-9 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 8 and 18, the phrase “a magnitude of an output current in phase with an output voltage” is confusing and unclear. It is not understood what is meant by such a limitation.

What is this parameter? Examiner believe this a phase of the output power.

Referring to claims 9 and 19 are rejected as being dependent upon a rejected claims 8 and 18 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer (US# 6,417,762) in view of Bullock et al. (US# 6,515,485).

Referring to claims 1 and 11, Comer discloses a method and an arrangement of components for use in a power line communication system, comprising: a modem (70) (transmitter) for providing an output to a power line (column 7 lines 8 to 17; see Figure 5); and a tuner (76) for adjusting a power of said output based on a value of said impedance of building ground 20 and neutral line 22 (column 7 line 66 to column 8 line 10; column 9 lines 10 to 19; see Figures 5-7).

However, Comer did not explicitly disclose a sensor for sensing a parameter of said output.

In the same field of endeavor of a power line communication system, Bullock et al. teach that a sensor (103) (i.e. a level detection) for sensing a parameter of said output (column 2 lines 48 to 59; column 3 lines 1-6; see Figures 1-3) in order to maximize power transfer to and from the power line.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a level detection to sense the level of an outputted signal to measure impedance matching taught by Bullock et al. in a tuning device of Comer because using the level detection to sense the level of the outputted signal to measure impedance would maximize transfer power by impedance matching.

Referring to Claims 2 and 12, Comer in view of Bullock et al. disclose the method and the arrangement of claims 1 and 11, Bullock et al. disclose wherein said controller maximizes said power while limiting said power to a predetermined level of electromagnetic radiation (column 1 lines 50 to 53; column 2 line 61 to column 3 line 14; see Figures 1 to 3).

Referring to Claims 3-4 and 13-14, Comer in view of Bullock et al. disclose the method and the arrangement of claims 1 and 11, Comer disclose using a tuning element to tune to different frequencies (i.e. in a 20 to 30 Mhz range) and tuning inductance and capacitance values change frequencies and output power level of output signals (column 9 line 50 to column 10 line 5).

Referring to Claims 5 and 15, Comer in view of Bullock et al. disclose the method and the arrangement of claims 1 and 11, Bullock et al. disclose wherein said parameter comprises an electromagnetic radiation (column 1 lines 50 to 53; column 2 line 61 to column 3 line 14; see Figures 1 to 3).

Referring to Claims 6-7 and 16-17, Comer in view of Bullock et al. disclose the method and the arrangement of claims 1 and 11, Comer discloses wherein said parameter comprises a signal current/voltage in said power line (column 9 lines 42 to 50).

Referring to Claims 10 and 20, Comer in view of Bullock et al. disclose the method and the arrangement of claims 1 and 11, Bullock et al. disclose wherein said output produces an

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electromagnetic radiation intensity from said power line, wherein said parameter and said electromagnetic radiation form a ratio, and wherein said controller adjusts said power to compensate for variations in said ratio over a transmitter frequency band of said modem (column 2 lines 26 to 40).

Claims 8-9 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Comer (US# 6,417,762) in view of Bullock et al. (US# 6,515,485) as applied to claims 1 and 11 and further in view of Gorecki (US# 4,556,866).

Referring to claims 8-9 and 18-19, Comer in view of Bullock et al. discloses the method and an arrangement of components for use in a power line communication system of claims 1 and 11, however, Comer in view of Bullock et al. did not explicitly disclose a phase detector that receives an input indicative of said output voltage and an input indicative of said output current.

In the same field of endeavor of a power line communication system, Gorecki teach that a phase detector (40) in a phase locked loop (38) of a power line carrier modulator (20) (column 4 lines 50 to 67; see Figures 1-2A) in order to provide a control signal to a voltage control oscillator for producing a timing signals.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to recognize using a phase detector to lock to the rising edges of the power line carrier frequency taught by Gorecki in a transmitter with a tuning device of Comer in view of Bullock et al. because using a phase detection to produce the timing signal and synthesize power carrier signal would provide a reliable signal output during transmission.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

York et al. (US# 4,563,650) disclose a power line communication receiver with dual threshold signal interrogation capability.

Sargeant et al. (US# 5,491,463) disclose a power line communication system.

Nielsen (US# 5,589,813) discloses a data communication system of the field bus type with a twin lead for power supply to connect units and for data transmission between the units.

Abraham (US# 5,717,685) discloses a transformer coupler for communication over various lines.

Rickard (US# 5,828,293) discloses a data transmission over a power line communications system.

Stewart (US# 5,982,276) discloses a magnetic field based power transmission line communication method and system.

Fridley et al. (US# 6,229,432) disclose an intelligent transceiver module particularly suited for power line control systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam V Nguyen whose telephone number is 571-272-3061. The examiner can normally be reached on Mon-Fri, 8:30AM - 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Brian Zimmerman can be reached on 571- 272-3059. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nam Nguyen
March 17, 2007


BRIAN ZIMMERMAN
PRIMARY EXAMINER